

ATTY DKT. NO.: U.S. SERIAL NO.: FILED: APPLICANT: TITLE:

INVENTOR:

INFN/0042 10/723,292 NOVEMBER 20

NOVEMBER 26, 2003 INFINEON TECHNOLOGIES AG VITERBI DECODER

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Radix-2 trellis with four states, digital transmission Example: Branch metric ZM=[2-Hamming distance (s,e)]

Original sequence	0	1	1	0 • • •
Transmission sequence	00	11	01	01
Reception sequence	00	11	01	01
	e		† (1)	

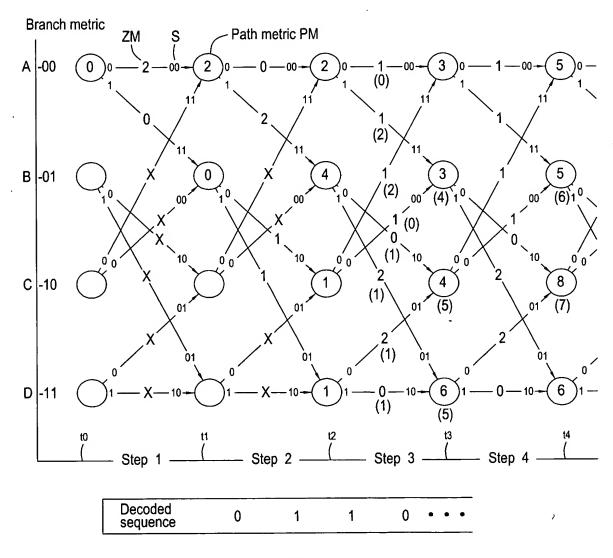


FIG. 1

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Radix-2 trellis with four states, analog transmission Example: Branch metric ZM=3- (s,e)

0	1	1	0 •	• •
00	11	01	01	
0	3	1	1	•
0,2	2,7	1,6	1,1	
	0	0 3	0 3 1	0 3 1 1

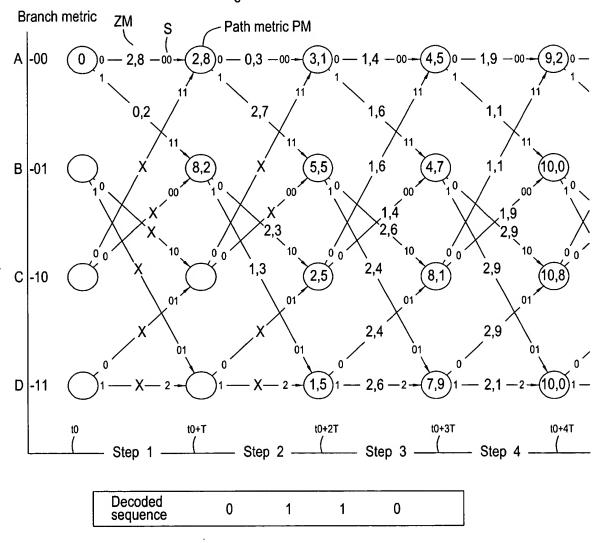


FIG. 2

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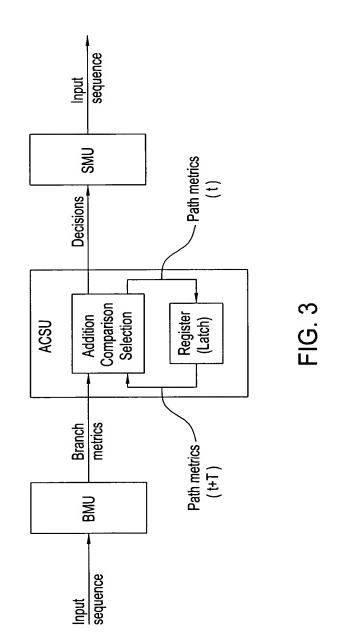
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Radix-2 trellis with four states, digital transmission Example: Branch metric ZM=[4-Hamming distance (s,e)]

Original sequence	0	1	1	0	٥	۰	0
Output sequence	00	11	01	01			
Reception sequence	00	11	01	01			
		e					

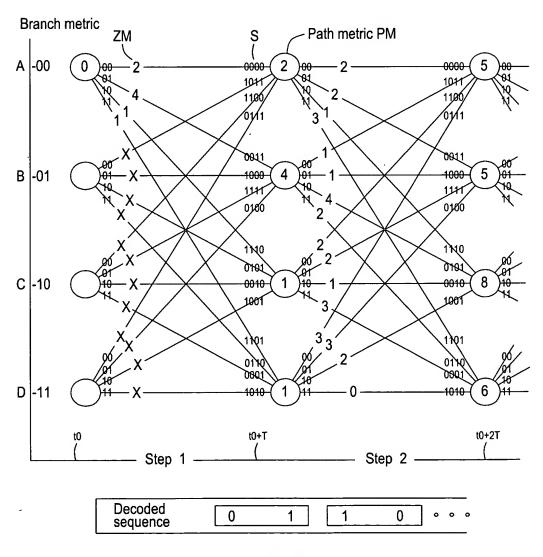


FIG. 4

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Radix-4 trellis with four states, analog transmission Example: Branch metric ZM=6(|e0-s0|+|e1-s1|)

Original sequence	0	1	1	0 • •	0
Output sequence	00	11	01	01	
Transmission sequence	0	3	1	1	
Reception sequence	0,2	2,7	1,6	1,1	
	e0	\ e1	e0	e1	

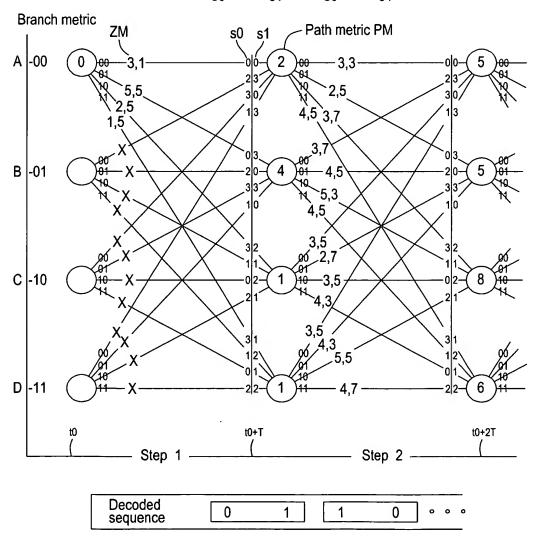


FIG. 5

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Radix-4 trellis with eight states

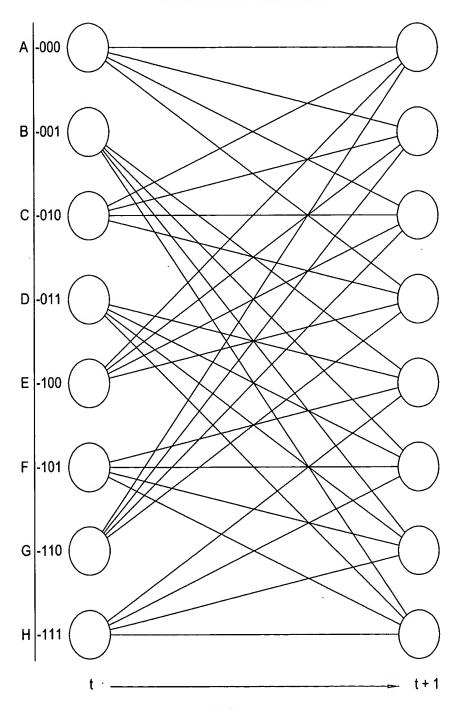


FIG. 6

ATTY DKT. No.: INFN/0042

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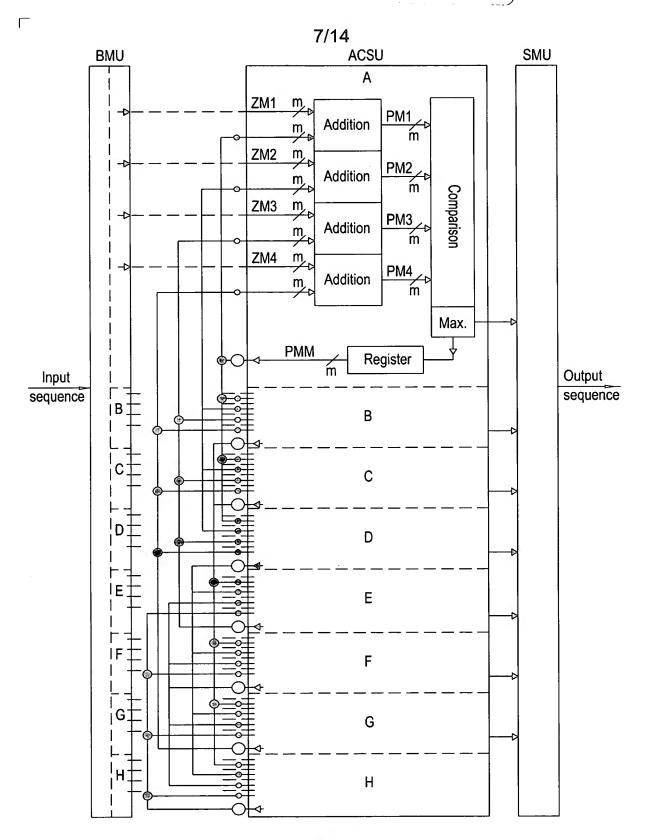


FIG. 7

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ACSU Section A from Figure 7

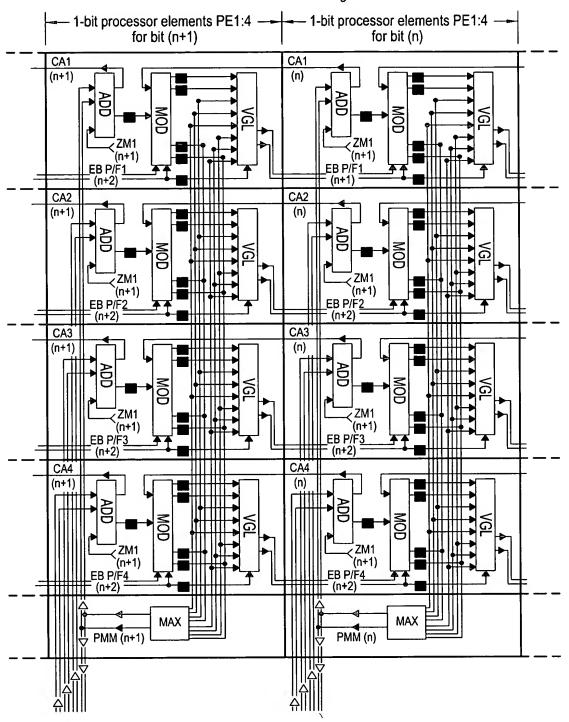


FIG. 8 (PRIOR ART)

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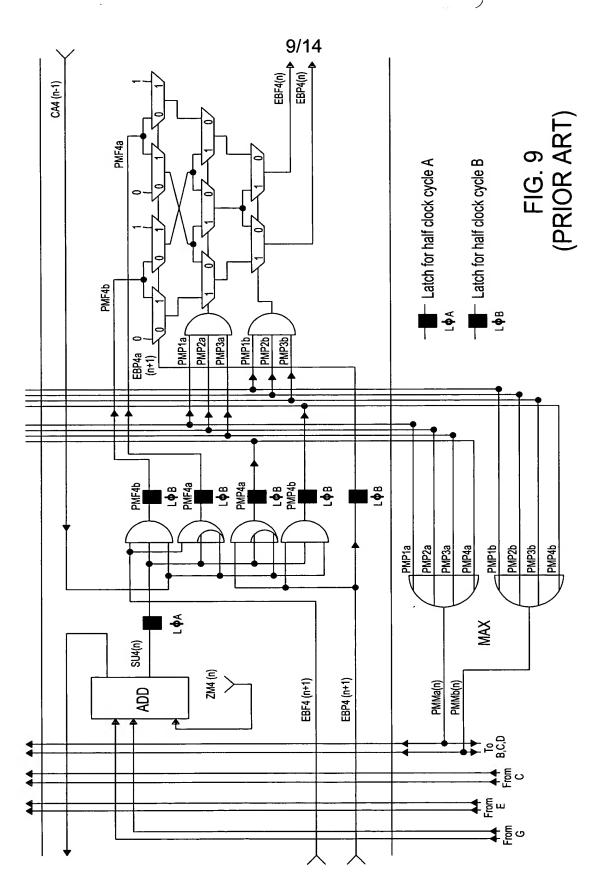
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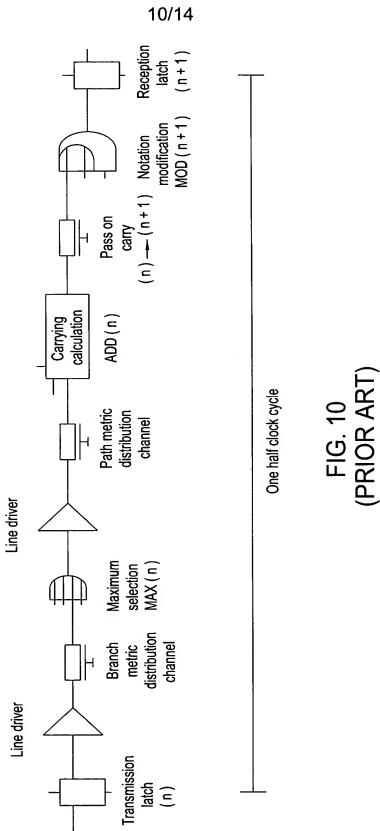
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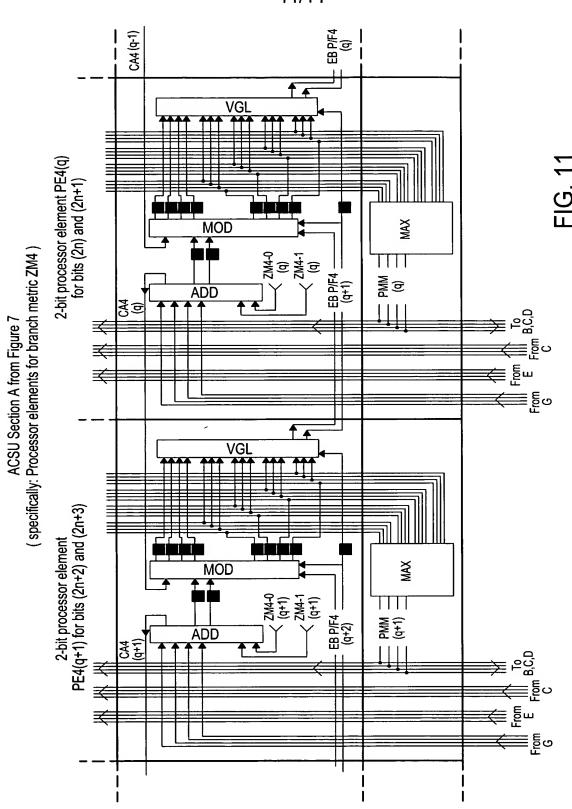
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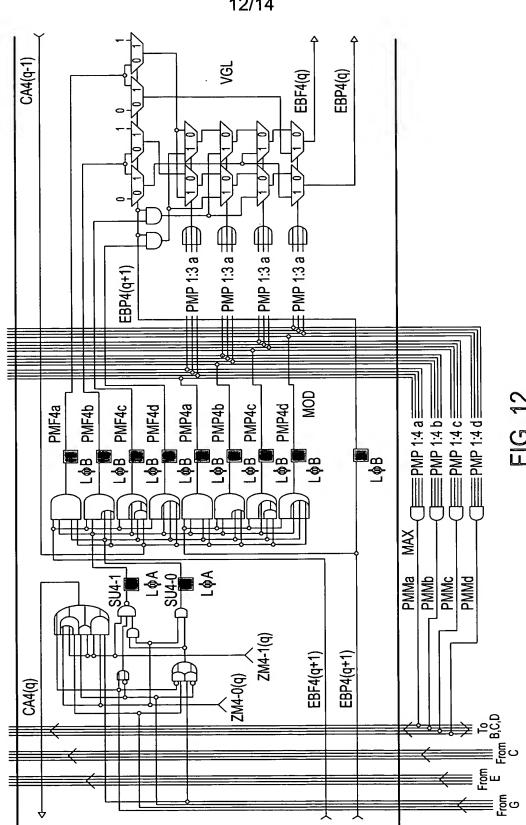
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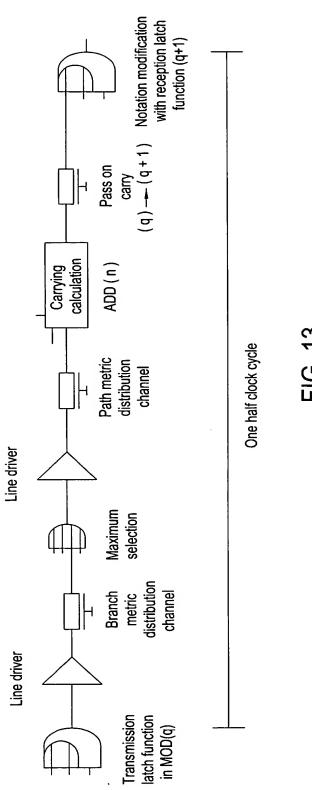
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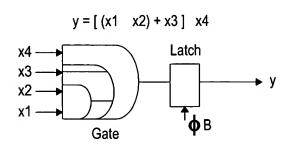
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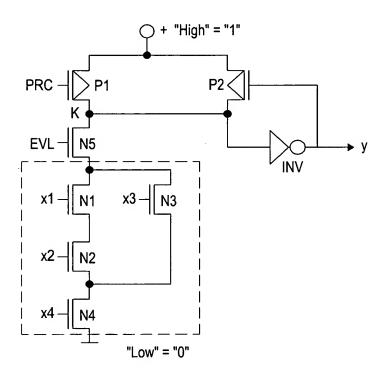
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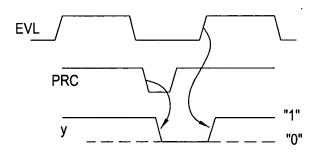


FIG. 14